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KACVINSKY LLC C/O INTELLEVATE P.O. BOX 52050 MINNEAPOLIS, MN 55402			EXAMINER LAFORGIA, CHRISTIAN A	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/809,607

Applicant(s)

MATUSZ ET AL.

Examiner

Christian La Forgia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. The amendment of 27 July 2007 has been noted and made of record.
2. Claims 1-20 have been presented for examination.

### *Response to Arguments*

3. Applicant's arguments, see page 8, filed 27 July 2007, with respect to the objections to the specification have been fully considered and are persuasive. The objection of the specification has been withdrawn, and the Examiner will construe the storage medium of claim 17-20 to be equivalent to the Applicant's disclosed machine-readable medium.

4. Applicant's amendments, filed 27 July 2007, with respect to claims 2 and 8 have been fully considered and are persuasive. The 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejection of claims 2 and 8 has been withdrawn.

5. Applicant's arguments regarding the 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejection of claims 3, 4, and 9 filed 27 July 2007 have been fully considered but they are not persuasive. In response to applicant's argument that the proper definitions of the Iub and Iur specifications can be found in the specification, it is noted that the definitions are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore the 35 U.S.C. 112, 2<sup>nd</sup> rejection of claims 3, 4, and 9 is maintained.

6. In response to the Applicant's challenge to the Examiner's position of Official Notice, the Examiner offers U.S. Patent Application No. 2005/0013324 A1 to Leahy et al., hereinafter Leahy. Paragraph 0047 states that the methods, such as validating incoming packets based on a key included in the packet, is equally applicable to wired and wireless regardless of the physical

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topology or protocols used. As such, Leahy provides a teaching that packet or frame authentication can occur regardless of the type of communication (i.e. wired or wireless).

Therefore, the Examiner maintains the statement of Official notice and the rejection. See *In re Zurko*, 258 F.3d 1379, 59 USPQ2d 1693 (Fed. Cir. 2001).

7. In response to the Applicant's arguments on pages 10 and 11, specifically independent claims 1 and 7, the Examiner disagrees that the Perlman reference does not teach all the limitations. The Applicant's amendment in part recites:

a frame authentication module operatively responsive to said network interface, said frame authentication module to authenticate frames communicated by said network **or** encode frames with authentication information if the frames do not include authentication information (Emphasis added in **bold**).

The Applicant's use of the "or" means that the claimed invention includes the frame authentication module authenticating frames communicated by the network, encoding frames with authentication information if the frames do not include authentication information or both.

In other words, the burden on the Examiner has been met since the Perlman reference teaches the authenticating steps as noted in the previous Office Action, as well as again repeated below.

Therefore, the rejection of claims 1-12 is maintained.

8. The Examiner further disagrees with the Applicant's arguments on pages 10 and 11, regarding independent claims 1, 7, 13, and 17, that the Perlman reference does not teach wherein the frame authentication module encodes frames with authentication information if the frames do not include authentication information. Perlman discloses at column 3, lines 51-60 that the

authentication system **14** included therein uses selected information and data bytes from one or more data packets to produce a corresponding set of one or more integrity checks. The authentication system next encrypts the integrity check in a known manner in accordance with a shared secret key, and produces an "integrity block." The end station then sends the data packets and the integrity block over the communications network **16**

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to use one or more recipient end stations **12** through a network interface **15** in a known manner.

The Applicant's claimed encoding is drawn to the authentication system selecting information and data bytes to produce integrity checks. The combined, encrypted integrity checks form the integrity block which is analogous to the Applicant's claimed authentication information. The authentication system authenticates responsive to receiving frames from the network, while the encoding is performed when the device is transmitting frames onto the network.

9. Since Perlman teaches authenticating frames received from the network and encoding frames when transmitting, the prior art teaches the Applicant's claim limitations and the rejection is maintained.

10. Applicant's arguments regarding dependent claims 2-6, 8-12, 14-16, and 18-20 fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

***Claim Rejections - 35 USC § 112***

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 3, 4, and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 3, 4, and 9, it is unclear which versions of the Iub and Iur Specifications the Applicant is referring to and appears to be attempting to cover future versions of the both specifications.

***Claim Rejections - 35 USC § 103***

13. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

14. Claims 1, 5, 6, and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,996,712 to Perlman et al., hereinafter Perlman.

15. As per claim 1, Perlman teaches an apparatus, comprising:

a network interface (Figures 2 and 4 [block 15]) to communicate frames of information in accordance with a protocol (column 3, lines 57-60, i.e. the end station sends data packets to recipients via network interface in a known manner); and

a frame authentication module operatively responsive to said network interface (Figure 2 [block 14]), said frame authentication module to authenticate frames communicated by said network interface (column 4, lines 4-19) or encode frames with authentication information if the frames do not include authentication information (column 3, lines 51-60, column 4, lines 1-3).

16. Perlman does not teach the use of a wireless protocol.

17. The Examiner take Official notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made for the network interface of Perlman to implement a wireless protocol, especially since he discloses at column 3, line 60 that any known protocol may be used.

18. Regarding claims 5 and 10, Perlman teaches wherein said authentication module comprises:

an authentication encoding module to encode each frame with authentication information (column 3, lines 50-60, i.e. during a send, creating integrity checks); and

an authentication decoding module to authenticate each frame using said authentication information (column 4, lines 39-63, i.e. recipient decrypts the integrity blocks).

19. With regards to claims 6 and 11, Perlman teaches wherein said authentication encoding module generates said authentication information using an authentication key (i.e. shared secret key), data from said frame (i.e. data bytes from one or more data packets), and a change parameter (column 3, lines 4-25, i.e. selected information, timestamp, packet sequence numbers) (column 3, lines 50-57).

20. As per claims 13 and 17, Perlman teaches a method and an article, comprising:

receiving a frame of information over a medium (column 4, lines 3-6);

determining whether said frame includes authentication information (column 3, lines 60-64, column 4, line 64 to column 5, line 3, i.e. the integrity block may be in a separate packet, the authentication information does not have to be in transmitted packet, instead traveling independently);

authenticating said frame using said authentication information (column 4, lines 3-9, column 4, lines 40-63); and

encoding said frame with authentication information if said frame does not include said authentication information (column 3, lines 51-60, column 4, lines 1-3, column 6, lines 14-27).

21. Perlman does not teach the use of a wireless protocol.

22. The Examiner take Official notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made for the network interface of Perlman to

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implement a wireless protocol, especially since he discloses at column 3, line 60 that any known protocol may be used.

23. Regarding claims 14 and 18, Perlman teaches retrieving an authentication key (column 4, lines 39-63, i.e. shared secret key);

    duplicating said authentication information using said authentication key (column 4, lines 41-63, i.e. reproducing the integrity checks);

    retrieving said authentication information from said frame (column 4, lines 39-63);

    comparing said duplicated authentication information with said retrieved authentication information (column 4, lines 43-63); and

    authenticating said frame in accordance with said comparison (column 4, lines 43-63).

24. Regarding claims 15 and 19, Perlman teaches generating said authentication information (column 3, lines 50-58, i.e. generate integrity block); and

    storing said authentication information in a spare extension field of said frame (Figure 3 [block 34], column 7, lines 50-67).

25. With regards to claims 16 and 20, Perlman teaches retrieving an authentication key (column 3, lines 50-57, i.e. shared secret key);

    retrieving data from said frame (column 3, lines 50-57, i.e. data bytes from one or more data packets);



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retrieving a change parameter (column 3, lines 4-25, column 3, lines 50-57, i.e. selected information, timestamp, packet sequence numbers); and

creating said authentication information in accordance with an authentication algorithm using said authentication key, said data, and said change parameter (column 3, lines 50-57).

26. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman in view of **draft 3G TS 22.100**, hereinafter **TS 22.100**.

27. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman in view of **TS 25.427** as applied to claim 7 below, and further in view of **TS 22.100**.

28. Regarding claims 2 and 8, Perlman does not teach wherein said network interface comprises a network interface defined in accordance with the Universal Mobile Telecommunication System.

29. **TS 22.100** teaches wherein said network interface comprises a network interface operable with a Universal Mobile Telecommunication System (pages 7-9).

30. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the network interface to comply with the UMTS specification, since **TS 22.100** discloses a number of security features on page 12, which include, but are not limited to, mutual authentication between the user and the serving network, confidentiality of user and signaling data, and end-to-end encryption.

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31. Claims 3, 4, 7, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perlman in view of **3G TS 25.427**, hereinafter **TS 25.427**.

32. Regarding claims 3 and 9, Perlman does not disclose wherein said network interface comprises a network interface configured in accordance with one of an Iub Specification and an Iur Specification.

33. **TS 25.427** teaches wherein said network interface comprises a network interface configured in accordance with one of an Iub Specification and an Iur Specification (Figures 1 and 2, page 7-80).

34. It would have been obvious to one of ordinary skill in the art at the time the invention was made for the network interface to be configured in accordance with the Iub and Iur specifications, **TS 25.427** states at page 7 that all the set of cells are carried on one transport connection, which means there are as many transport connects as set of coordinated transport channels and user ports for that communication, thereby preventing any traffic bottlenecks.

35. Regarding claim 4, Perlman does not teach wherein said wireless protocol comprises a framing protocol defined by one of an Iub Specification and an Iur Specification.

36. **TS 25.427** teaches wherein said wireless protocol comprises a framing protocol defined by one of an Iub Specification and an Iur Specification (pages 11-21).

37. It would have been obvious to one of ordinary skill in the art at the time the invention was made to format the data packets in accordance with the framing protocol disclosed in the Iub and Iur specifications, since **TS 25.427** states on page 12 that the purpose of the user data frames is to transparently transport the data blocks between the node and the radio network controller.

38. As per claim 7, **TS 25.427** teaches a system, comprising:

a node B system having a first network interface (page 8, Figures 1 and 2, i.e. NB sending and receiving data from SNRC);

a first radio network controller to communicate with said node B system, said first radio network controller having a second network interface (page 8, Figures 1 and 2, i.e. SRNC sending and receiving data from NB).

39. **TS 25.427** does not teach a frame authentication module for each of said first and second network interfaces, said frame authentication module to authenticate frames communicated between said first and second interfaces.

40. Perlman teaches a frame authentication module for each of said first and second network interfaces (Figure 2 [block 14], column 3, line 50, i.e. each end station includes an authentication system), said frame authentication module to authenticate frames communicated between said first and second interfaces (column 4, lines 1-19, column 4, lines 39-63) or encode frames with authentication information if the frames do not include authentication information (column 3, lines 51-60, column 4, lines 1-3).

41. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the authentication system of Perlman on the systems of Node B and radio network controller, since Perlman states at column 2, lines 2-10 that the authentication system would be fast and uncomplicated and would add robustness to the systems.

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42. Regarding claim 12, Perlman and TS 25.427 do not teach a second radio network controller to communicate with said first radio network controller, said second radio network controller having a third network interface; and a frame authentication module for said third network interface, said frame authentication module to authenticate frames communicated between said second and third interfaces.

43. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a second radio network controller having a third interface with its own frame authentication module, since it has been held that it only requires routine skill in the art to merely duplicate a part, in this case the second radio network controller. See MPEP § 2144.04; see also *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

#### ***Conclusion***

44. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

45. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian La Forgia whose telephone number is (571) 272-3792.

The examiner can normally be reached on Monday thru Thursday 7-5.

47. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

48. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christian LaForgia  
Patent Examiner  
Art Unit 2131

A handwritten signature in black ink, appearing to read 'CLF', with a large, stylized flourish extending from the bottom right.

clf